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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D. C. 20554

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In the Matter of:

Amendment of Part 90 of the	)	
Commission's Rules to	)	PR Docket No. 93-61
Adopt Regulations for Automatic	)	RM-8013
Vehicle Monitoring Systems	)	

To: The Commission

COMMENTS OF SOUTHERN CALIFORNIA GAS COMPANY

[redacted]

selected customer meters with AMR devices.[1] The classes of meters which will be equipped include:

"High cost to read" routes, requiring meter readers to drive long distances,

"Chronic inaccessible" meters, where repeated visits by meter readers are required to obtain readings,

"High risk" areas, in which the safety of meter readers may be compromised,

"Summary account billing" meters, for large customers with multiple facility locations, who require a summary usage bill on a fixed date, and
"Core Aggregation Transportation ("CAT")" customers, to determine if daily load balancing options are effective both for the aggregators and for SCG.

This work is being undertaken as a means, in part, to reduce SCG's operating expenses and therefore to remain competitive in an increasingly unregulated market, as well as to provide service at the lowest possible cost to its customers. SCG therefore has a direct major interest in these proceedings.

3. SCG does not take exception to the creation of a nationwide Location and Monitoring Service ("LMS")[2] system. SCG understands and appreciates the potential value of this kind of technology to commerce and to the public.[3] SCG also takes no exceptions to many of the provisions of the instant Docket, including:

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[1] Additional meters may be equipped in the post-1996 time period, after an assessment of the results of the first implementation is accomplished.

[2] Although SCG finds the proposed acronym to be given to the Service, "LMS," to be easily confused with the traditional LMS utilized for the Land Mobile Services.

[3] SCG is investigating future utilization of this kind of positioning technology for its private mobile vehicle fleet.

the definition of the Location and Monitoring Service

all "narrow band" location systems

location of both animate and inanimate objects

"private carrier" authorizations.

SCG, however, respectfully takes considerable exception to the proposed frequency allocation for pulse-ranging multilateration systems due to the potential conflicts which operation of an LMS system within the proposed spectrum may create. SCG will present several alternatives to the use of terrestrial wide-band, pulsed location systems. If terrestrial pulsed-ranging LMS are authorized, SCG requests that different spectrum be located and allocated for their use.

THE PROPOSED FREQUENCY ALLOCATION MAY SEVERELY IMPACT OTHER RADIO SERVICES IN AN ALREADY OVER-UTILIZED FREQUENCY BAND

4. The instant Docket proposes allocations for several kinds of LMS systems at 902 - 928 MHz. SCG has a direct and continuing interest in the 902 - 928 MHz frequency band, which is a potential venue for its future AMR/OMR operations.

Wind Profiler Radar Service within the same frequency spectrum.[6] Especially in southern California, there is already very high utilization of this frequency band.

6. SCG notes with great concern that the instant docket proposes as a possible course of action the restriction and/or removal of Part 15 operations from this band.[7] Such limitations would obviously include AMR/OMR devices, which are of direct importance to SCG in the conduct of its business. Unfortunately no replacement spectrum has yet been made available for relocation of AMR/OMR devices.[8] Thus no migration path for this radio-based activity has been presented; SCG vigorously maintains that it and other public utilities[9] across the nation must retain unhindered access to the instant frequency band for this important service.

7. SCG also notes the existence and use of uncounted numbers of (non-AMR/OMR) Part 15 devices on the 902 - 928 MHz band. In terms of their numbers, these devices form a

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[6] The nearly simultaneous release of the instant NPRM and ET Docket 93-61, both proposing additional uses for the same frequency band, would seem to indicate some lack of coordination within the Commission in its spectrum management function.

[7] As well as the Amateur Radio Service. SCG is developing an emergency/disaster backup communications system which depends, in part, upon utilization of Amateur Radio Service stations. While the rights of Amateur stations are not relevant to SCG's primary Part 15 unlicensed device concerns at 902 - 928 MHz, SCG also strongly opposes the summary deallocation of any Service, including the Amateur Radio Service, from the instant band as unjustified without demonstrable cause.

[8] Department of Energy Docket No. CE-NOI-93-001 has envisioned the creation of a

powerful presence on the band. It would seem, to SCG, that the Commission would have considerable difficulty in "regulating" existing users of these devices off the frequency band to provide a low noise floor for pulse-ranging systems, given that users do not hold Commission licenses and the Commission therefore does not possess a "notification list" from which to work.

8. SCG holds Part 94 Private Microwave licenses in the Multiple Address Service ("MAS"), operating in part in the 928-929 MHz frequency band. Such licenses are used for operation of some of SCG's gas distribution and customer premises measurement, monitoring, and control systems. The presence of pulse-ranging LMS systems at proximate frequencies and locations could create significant operational difficulties for these licensed MAS stations also.

LMS SYSTEMS WOULD BE

UNRELENTING BAND OCCUPANTS

9. SCG's service territory extends throughout southern California, one of the most radio emissions-congested regions of the country. All of the emissions sources described supra are in abundant operation in this region. As a consequence, the spectral "noise floor" at 900 MHz is already elevated, from both intentional and unintentional radiators. Addition of wide area, wide-band LMS systems will make a presently difficult operating environment even more difficult.

10. To a certain extent, AMR operations are not time sensitive; in many (but certainly not all) circumstances meter "reads" can be taken from 0000 to 0600 hours local time. This is a time period in which most mobile and many fixed band licensees are not operational; a lower radio noise floor results, aiding the operation of low power AMR devices. However, this may not be the case with wide-band LMS systems, which are presumed to be available for continuous

usage. Thus attempts at "time division multiplex" use of the band by AMR Part 15 devices may

uses readily available, inexpensive,[11] and adaptable[12] receiving equipment,

will be incorporated during manufacture into most new vehicles within the next five years, and

provides highly accurate time-of-day data, enabling very accurate vehicular direction and velocity data to be developed.

SCG asserts that the widely-held view within the telecommunications industry is that GPS will shortly become, if it has not already done so, the preferred method for determining positional location and velocity. The widespread need for terrestrial based multilateration services, in the light of the accelerating development of GPS receiving/computing equipment, is speculative at

communications link can easily be adapted to carry the short[14] positional data without significant disruption to other necessary communications. Since no PLMRS mobile transmitter operates at a frequency higher than 901 MHz,[15] and since GPS transmissions occur only above 1000 MHz, no interference between the on-board positional location and the data telemetry systems will occur. Furthermore, since neither component of the link operates at 902 - 928 MHz, interference to the positioning system from Government Radiolocation and Industrial, Scientific, and Medical equipment will not occur.

14. By extension, many other potential users of LMS systems also possess their own Land Mobile Service communications systems;[16] this is especially true of large fleet operators.[17] For these fleet operators the addition of a new, separate telemetry link system, through subscription to terrestrial-based LMS service, is an expensive and unnecessary charge.[18] In terms of total capital and operating costs, it would be more cost effective to

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[14] SCG estimates no more than 20 Bytes per position location. At 4800 bits per second transmission rate, SCG estimate an approximately 50 millisecond transmission duration for these data, including necessary "overhead" bits.

[15] 47 Code of Federal Regulations #90.613

[16] This includes satellite-based Private and Public Land Mobile Service communications systems, which provide seamless coverage for operators of nation-wide transportation fleets.

[17] SCG, for example, has 3000 field vehicles providing service of its gas transmission, distribution, and customer premises equipment. The SCG service territory covers 22,000 square miles in the southern half of the state of California.

[18] SCG has conducted field trials of the Pacific TeleTrac LMS system. Initial findings indicated that the vehicle location data presentation did not integrate well with SCG's mobile dispatch configuration, and Pacific TeleTrac did not offer service in some less-populated portions of SCG's service territory. More importantly, the aggregate "fee per individual vehicle interrogation" for a large vehicular fleet would produce unacceptably high overall system costs.

integrate GPS receivers and data into their existing LMS communications systems. Again, there would be no need to tolerate co-band interference at 902 - 928 MHz, since neither component of the LMS system would operate on that band.

15. Finally, even for the small fleet or individual vehicle owner who does not presently possess a radio (telemetry) link from its vehicle(s) to a fixed dispatch point, an imminent solution presents itself. The Commission is on the verge of authorizing creation of the Personal Communications Service ("PCS") in the 2 GHz frequency band. This is an ideal venue for carriage of the sort of digital data which GPS receivers produce, it will be a public carrier service available to all, and its eventual ubiquity[19] will provide telemetry service to all users.

SUMMARY

SCG does not oppose in principle the allocation of radio frequency spectrum for a Location and Monitoring Service. However, SCG does take strong exception to the specific proposal to create an allocation at 902 - 928 MHz for pulse-ranging, wide-band, LMS systems, for the following reasons:

In this already highly congested frequency band, pulse-ranging LMS systems possess great potential for mutual interference with other band users.

[19] Admittedly some time will be required to design, construct, test, and make available PCS service in all areas of the nation.

At the present time no replacement spectrum for AMR/OMR devices and other, currently existing Part 15 devices, at 902 - 928 MHz is available.

Existing Part 15 devices, as well as other users of the instant frequency band, are already sufficiently prevalent that mutual interference potentials with proposed wide-band LMS systems may never be reduced.

Proposed terrestrial wide-band LMS service tends to be concentrated in the metropolitan areas of the United States. For operators of wide-area fleets, such as SCG, this kind of service does not provide a comprehensive (service) territory-wide solution to its vehicular fleet radiolocation requirements.

Highly adequate and cost-effective alternatives to terrestrial-based, wide-band, wide-area LMS systems already exist, and additional alternatives will be made available shortly.

Given:

the wide-spread and growing availability of the GPS alternative for radiopositioning, together with the existing and future alternatives for the vehicular-to-base telemetry link,

the great potentials at 902 - 928 MHz for mutual interference between pulse-ranging LMS systems and present band occupants, and

the uncertain future market potential for terrestrial-based LMS systems in the light of the above,

SCG strongly believes that a permanent allocation for wide-band pulse-ranging LMS systems at 902 - 928 MHz is unwarranted, undesirable, and particularly inappropriate at this time. SCG does not unilaterally oppose the concept of terrestrial pulse-ranging LMS systems. However, SCG believes that a more appropriate frequency band, particularly one which does not involve co-sharing with other sensitive activities, must be allocated for this purpose. Attempting to "shoe horn" LMS systems into 902 - 928 MHz, especially within the southern California region, will lead to difficult, perhaps unresolvable, problems for all users.

Therefore, for the reasons contained herein, SCG strongly OPPOSES any allocation for wide-band pulse-ranging LMS systems at 902 - 928 MHz at this time.

Respectfully submitted,

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